

Characterization of Particles Coincident with Isoprene Plumes Near Oklahoma City During the 2007 Cumulus Humilis Aerosol Processing Study (CHAPS)

M. Elizabeth Alexander, Matt Newburn, John Hubbe, Larry Berg, Carl Berkowitz¹, Yin-Nan Lee, Stephen Springston, Gunnar Senum, Larry Kleinman, Peter Daum², Elizabeth Andrews³, and John Jayne⁴

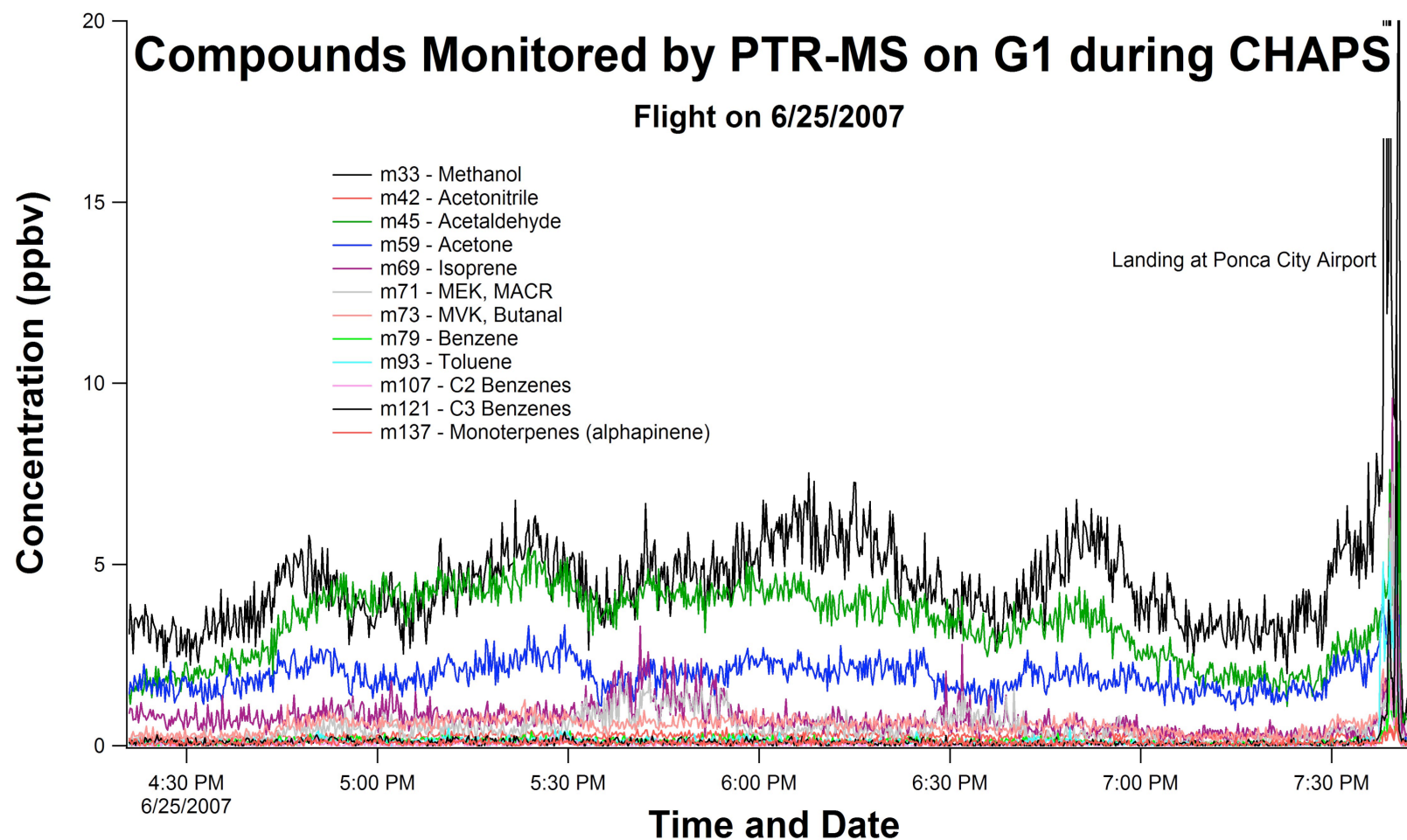
¹ Pacific NW National Laboratory, Richland, WA

² Brookhaven National Laboratory, Upton, NY

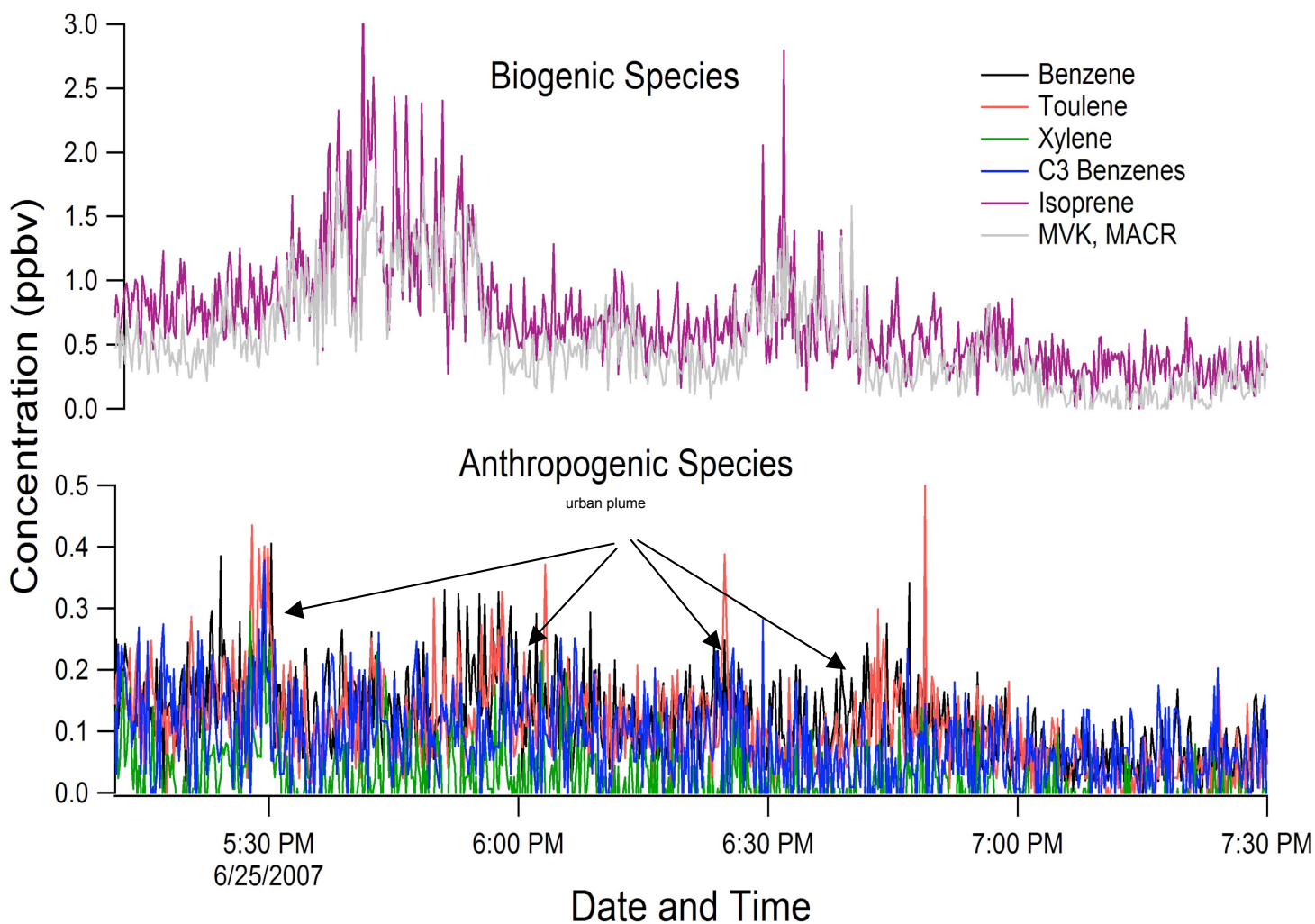
³ National Oceanic and Atmospheric Administration, Boulder, CO

⁴ Aerodyne Research Inc., Billerica, MA

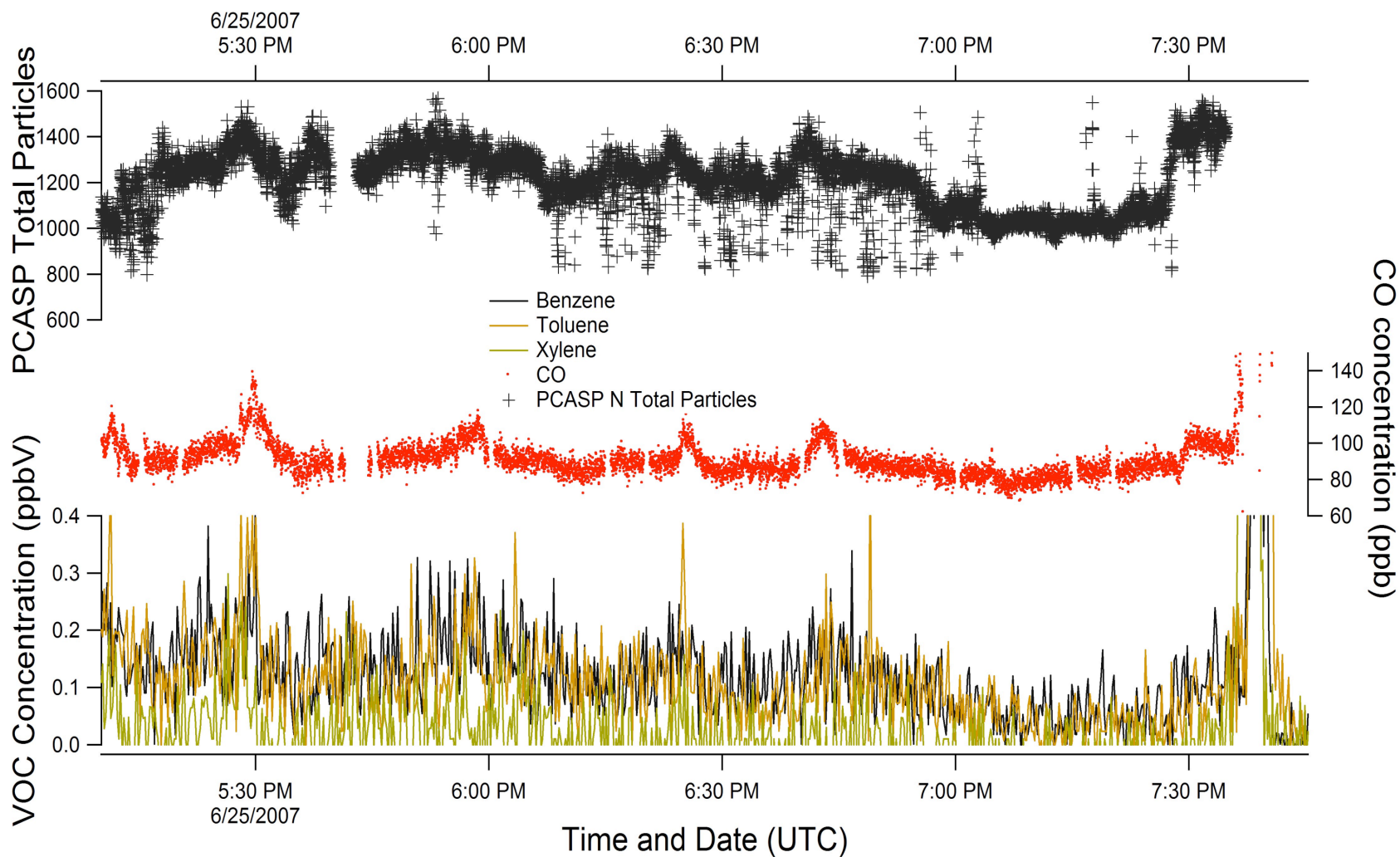
VOC Species Measured During CHAPS



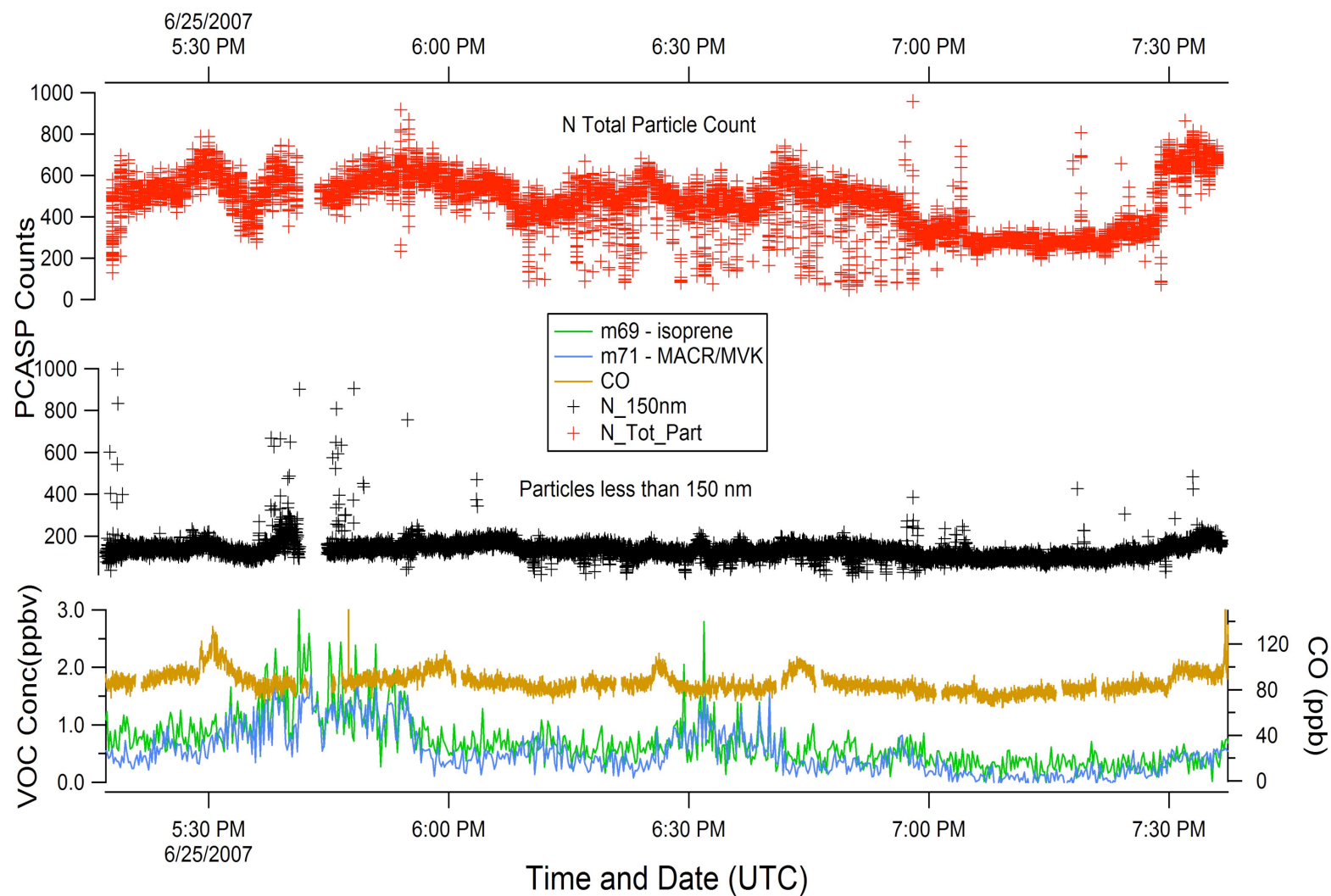
Biogenic and Anthropogenic Species



Anthropogenic Cross-Comparisons



Biogenic Cross Comparisons



Conclusions



- Anthropogenic VOC's CHAPS correlate with CO and other urban markers. PCASP total particle loading tracks the urban plume
- Biogenic VOC species consistently seen in locations not coincident with the urban plume
- Possible correlation with biogenic plumes was seen in the smaller PCASP particle channels. Terpenes were not detected.
- Correlation isoprene plume with a location or source
- Correlation with small particles measured by other instrumentation aboard the G1 are underway.
- Reinforces importance of isoprene in global models